BISTI REGION MULTIPLE RESOURCE PROGRAM

FINAL REPORT

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
ALBUQUERQUE DISTRICT OFFICE

1980

RECOMMENDATION

This is the plan for implementation of the Bisti Region Multiple Resource Program. I recommend that this document be approved and the actions outlined be undertaken, beginning in FY 1981, to accomplish the objectives of the program.

L. Paul Applegate
District Manager

Concurred: Larry L. Woodard
Acting State Director

Approved: Frank Gregg
Director

Date: September 22, 1980

EXECUTIVE SUMMARY

Proposed Action: The Albuquerque District of the BLM's New Mexico State Office is proposing the creation of a multiple resource program for a Critical Management Area (CMA) in the remote Bisti Region of northwestern New Mexico.

Purpose: The needs of the nation for domestic sources of energy are causing major resource management conflicts in the CMA. This area holds the potential for extensive development of coal, uranium, natural gas, and oil. The area also contains unique cultural, paleontological, wilderness, and recreational resources. In addition, it is the homeland of several hundred Navajo families who depend on the land for their subsistence. Frequently, proposals for energy and energy-related developments in the CMA are at cross-purposes with efforts to manage the area's valuable heritage resources, and are disruptive to the traditional Navajo lifestyle. The resolution of these resource conflicts cannot be achieved by the present staffing of the District's Farmington Resource Area. The resources involved, especially the heritage resources, require highly trained specialists for proper management. The specific purpose of this proposed multiple resource program is to offer a way to develop the vast energy resources of the CMA, while protecting and enhancing its heritage resources and minimizing impacts to the local Navajo families.

Management Plan: The multiple resource program is designed as a vehicle by which Resource Area planning decisions, made in accordance with established Bureau procedures, can be implemented in the field under conditions of rapid change. It is recommended that this program be administered initially as a project office under the Farmington Resource Area. It is further recommended that the project office be located within the CMA to ensure an on-the-ground presence by Bureau personnel. Pierre's Site is suggested as the eventual permanent location of the project office because this site would be centrally situated in relation to the area of greatest anticipated energy development and adjacent to a new townsite that could provide the necessary services for staff and families.

The multiple resource program is put forth as a three-phased plan to avoid over-managing the CMA. Each successive phase would involve more intensive management in response to increased energy developments. The main aspects of each phase are described below.

> Phase I: Phase I is an initial on-the-ground response to low levels of energy development expected to occur within the next three years. This phase would provide for mineral leasing and lease administration, Wilderness Study Area supervision, cultural and paleontological resource inventories, protection of sensitive archeological and paleontological sites, and general monitoring of activities within the CMA. This phase would facilitate management of the Chacoan outliers as discussed in the Chacoan Community Cultural Resources Interim Management Plan. Six full-time positions (project manager, clerk typist, archeologist, geologist, outdoor recreation/ planner, and realty specialist) would be needed immediately to get the program underway in FY 81.

Full staffing of Phase I would require 11 positions. Temporary facilities for the program under this phase would be located at Tsaya, New Mexico, a small trading post near the western edge of the CMA.

Phase II: This phase would begin if additional coal lands in the CMA went to competitive lease or if some of the 26 PRLA's were approved, and an environmental assessment of impacts from locating permanen facilities at Pierre's Site was completed. Management functions under Phase II would include an elaboration of Phase I functions. In addition, some in-house archeological and paleontological salvage would be performed in advance of coal mine development. Three additional positions would be needed for this phase above the number needed for Phase I. The program would remain at Tsaya in temporary facilities.

Phase III: Phase III is a maximum management response to major energy-related developments within the CMA. This phase would begin in the PRLA lands went to full-scale mining or if approval was granted for the construction of a coal-fired electrical generating station. Phase III would expand all management functions of Phases I and II and offer several new functions such as archeological and paleontological research, cooperative programs with other Federal and State agencies and research institutions, wilderness area management if any of the three Wilderness Study Areas in the CMA received wilderness designation, and management of a visitor center and campground at Pierre's Site. Staffing for this phase would require an increase of 12 positions over Phase II. Temporary office and housing space would continue in use until permanent facilities were constructed. Permanent structures would include an administrative/interpertive center, warehouse, shop, laboratory, repository, and residential housing.

If energy-related developments reach the projected full development in the CMA, we propose that consideration be given to conversion of the project office to a new resource area in Phase III. Additional positions could be transferred from the Farmington Resource Area Office to handle the complete range of resource responsibilities managed in a resource area. It is, however, beyond the intended scope of this proposal to specify the details of establishing a new resource area for the CMA.

Conclusion: There is little doubt that rapid development of energy resources in the CMA will continue. Developing a special management program and staffing a facility in the heart of the CMA would provide the on-site technical expertise to adequately protect and develop paleontological, cultural, wilderness, and recreational resources, while significiantly speeding up resolution of resource conflicts that might otherwise delay energy development. Further, such a program as herein proposed would encourage increased public participation in the BLM's land-use planning system, thus going far toward creating a climate of public trust and support for BLM programs.

BISTI REGION
MULTIPLE RESOURCE PROGRAM

FINAL REPORT

UNITED STATES DEPARTMENT OF INTERIOR

BUREAU OF LAND MANAGEMENT

ALBUQUERQUE DISTRICT OFFICE

SEPTEMBER 22, 1980

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BISTI REGION
MULTIPLE RESOURCE PROGRAM
FINAL REPORT

PURPOSE AND NEED

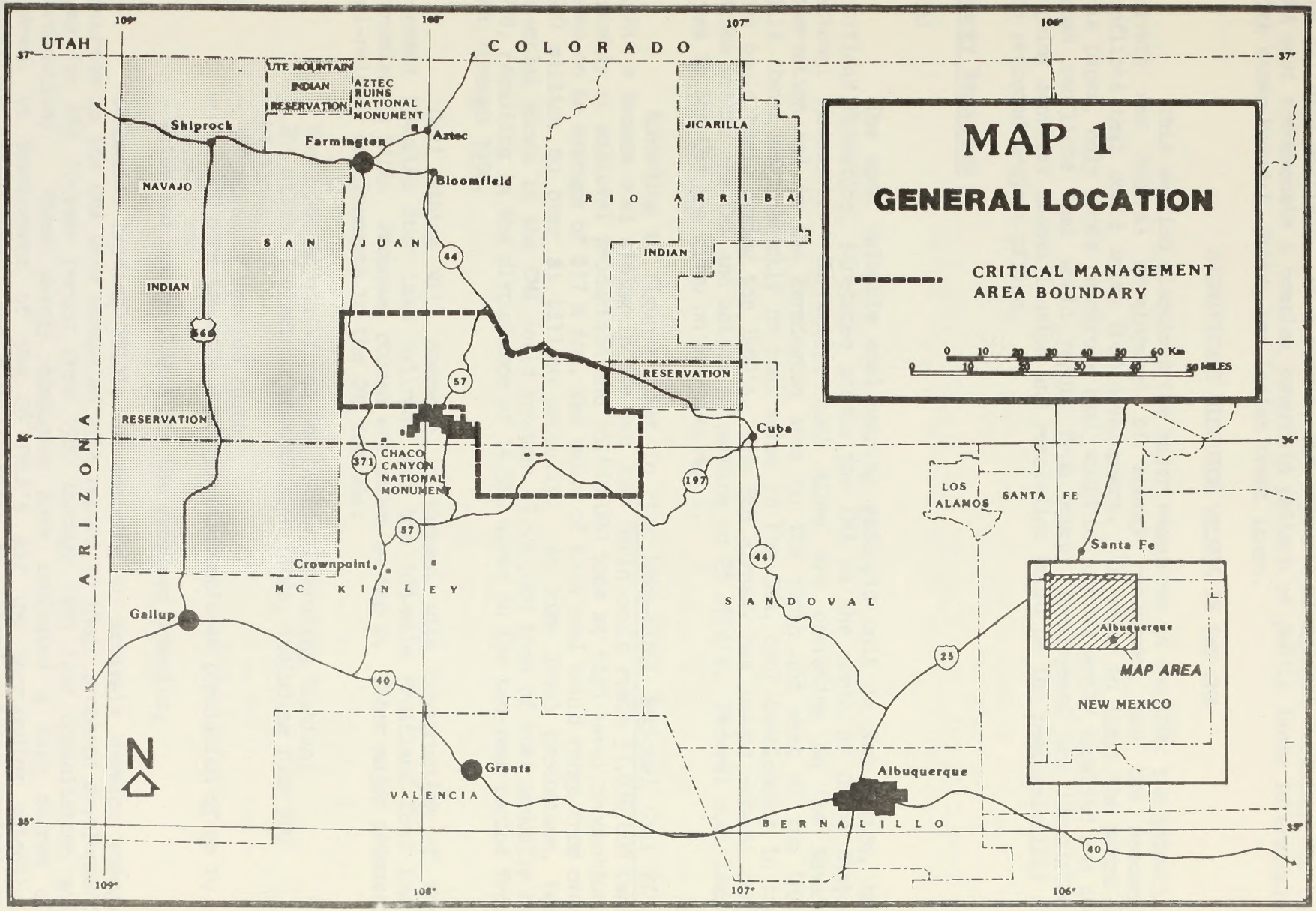
In his August 2, 1979 Message on the Environment, the President directed the Secretary of the Interior to find the best balance of uses of Federal land to assure that resources are available to meet the nation's needs while environmental values are carefully protected. The San Juan Basin of northwestern New Mexico is a vast storehouse of coal, uranium, natural gas and oil. The Bisti region of the basin holds the potential for development of an estimated 28 billion tons of Federal coal. This area contains unique cultural, paleontological, and wilderness resources, as well as valuable recreational opportunities. It is also the homeland of several hundred traditional Navajo families who depend on the land for their subsistence.

The Albuquerque District of the BLM's New Mexico State Office is proposing creation of a project office to administer a multiple resource program that would facilitate energy development while preserving the valuable heritage resources of the Bisti region. This project office would be located in a Critical Management Area (CMA) where the most acute resource conflicts would occur as a consequence of the proposed development of Federal coal reserves. The project office is designed as the vehicle by which decisions made in accordance with established Bureau planning procedures can be effectively implemented in the field under conditions of rapid change. This project office would provide an adequate on-the-ground presence in the CMA despite the projected heavy workload increases in the area. The study team that developed this proposal has identified, with the cooperation of private industry, key mileposts that will necessitate major management response and financial commitment by the Bureau to meet its program responsibilities. Through timely response to these mileposts, the Bureau can expedite energy development in the basin consistent with Federal mandates, while providing a cost-effective solution for preserving and enhancing major non-energy resources.

CRITICAL MANAGEMENT AREA (CMA)

The CMA that would be served by the proposed project office is shown on Map 1. The CMA encompasses portions of San Juan, McKinley, Sandoval, and Rio Arriba Counties. The major arterial access into the area is State Highway 44. As shown on oversize Map A, the terrain of the CMA is characterized by large mesas, rolling plains, and badlands, with numerous ephemeral drainages. The altitude ranges between 5,000 and 7,000 feet.

Approximately one-third of the surface of the more than 700,000 acres in the CMA is public land under the jurisdiction of the BLM (oversize Map B). This land is administered from the BLM Albuquerque District and the Farmington Resource Area Offices. The so-called "checkerboard" land ownership pattern in this area dates back to the early 1800's when congress provided incentives to develop a transcontinental railroad system by granting railroad companies alternate sections of land along both sides of the railroad centerline. Since these lands were already occupied by various Indian tribes in what is now the Albuquerque District, the railroad company was allowed to select lands outside


MAP 1
GENERAL LOCATION
CRITICAL MANAGEMENT AREA BOUNDARY
0 10 20 30 40 50 60 Km
0 10 20 30 40 50 MILES
UTAH
COLORADO
ARIZONA
NEW MEXICO
UTE MOUNTAIN INDIAN RESERVATION
AZTEC RUINS NATIONAL MONUMENT
Shiprock
Farmington
Aztec
Bloomfield
NAVAJO INDIAN RESERVATION
SAN JUAN
RIO ARRIBA
JICARILLA INDIAN RESERVATION
CHACO CANYON NATIONAL MONUMENT
Cuba
LOS ALAMOS
SANTA FE
Santa Fe
Crownpoint
MC KINLEY
SANDOVAL
Gallup
Albuquerque
MAP AREA
Grants
VALENCIA
BERNALILLO
N
109°
108°
107°
106°
37°
36°
35°
44
57
371
197
87
40
25
666

MAP
GENERAL LOCATION

the railroad corridor. As a result, BLM resource management decisions for the CMA must accommodate a complex ownership pattern of public lands intermingled with other Federal, State, and Indian trust lands.

SIGNIFICANT RESOURCE VALUES IN THE CMA

This section discusses the major resources in the CMA, the potential private and Federal development of energy resources, and the resource conflicts that could arise from development. In order to limit the scope of this paper, only those resources that would be significantly impacted and the broad conflicts that would result from energy development are identified. Ongoing conflict identification and resolution would be the responsibility of the proposed project office.

Energy Resources

Coal

The most valuable coal-bearing geologic unit in New Mexico, the Fruitland Formation, stretches across the CMA to the north of Chaco Canyon National Monument. Currently, coal mines are operating on the Navajo Reservation and in the Farmington area to the north and west of the CMA. While there are presently no coal mines in the CMA, coal development in the area could begin during the 1980's. The BLM already has issued several coal leases within the CMA and action is pending on 26 PRLA's. Federal coal lease areas in the CMA are shown on oversize Map C.

According to figures given in Star Lake-Bisti Regional Coal EIS, within a decade coal mining in the San Juan Basin could reach 31,010,000 tons annually at midlevel production and 75,410,000 tons at high level production. Based on an average of $17 a ton, the value of this coal could range from over $500 million to over $1 billion annually. At high level production, ten potential mines in the CMA could produce 45,500,000 tons of coal annually by 1990, resulting in the disturbance of 14,580 acres in the ten-year period from 1980 through 1990.

Coal mining will commence in earnest with construction of the proposed 114-mile Star Lake Railroad and the 108-mile Fruitland Coal Load Transmission Line. Proposed routes are shown on Map D. Other major proposed coal-related developments in the CMA include:

- The 2,000 MW coal-fired New Mexico Generating Station;
- 261 miles of electric transmission lines, including four 500 kV lines;
- 240 miles of service roads;
- A 2,560 acre townsite supporting an employee population of up to 20,000; and
- Water and sewage plants for the proposed townsite.

Companies holding PRLA's or desiring to actively develop energy resources in the CMA were contacted with regard to their proposed development plans for the 10-year period from 1980 through 1990 (see Consultation and Coordination). These energy companies have indicated a high degree of interest in development of the 26 PRLA's and the surrounding potential competitive lease areas, and a willingness to expend private capital to

develop these resources. Table 1 summarizes the timetable for major Bureau actions relevant to energy development proposals in the CMA.

Uranium

According to figures contained in the Star Lake-Bisti EIS, in November 1978 there were 42 uranium mines operating, under development, or planned in McKinley, Sandoval, and San Juan Counties. These mines will have in excess of 5,500 mining and support personnel when in full production. The mines are located in the Grants Uranium Belt, the largest uranium producing area in the United States. The area of uranium exploration and development in the Grants Uranium Belt south of the CMA is shown on Map D. Since 1978 the area in which uranium mining may take place has moved steadily northward into the area of potential coal development. Information contained in the newly released study, Uranium Development in the San Juan Basin Region, indicates that the area of potential uranium exploration and mining is now well inside the CMA.

United Nuclear Corp. and Ranchers Exploration and Development Corp., two of the major uranium companies in the Grants Uranium Belt, were contacted with regard to their future exploration and development plans. Both companies stated that they are experiencing a temporary slowdown in production as a result of the decreased demand for yellowcake following the Three Mile Island incident. However, as safety technology improves, these companies project an upswing in demand for uranium as an interim substitute to offset the ever-increasing cost of oil and natural gas. Both companies are expanding their exploration efforts into the CMA in an effort to meet this projected demand.

Oil and Gas

As shown on oversize Map D, more than a dozen oil fields are scattered along the northern and southern boundaries of the CMA, and one large gas field blankets the area to the north. An estimated 6 percent of New Mexico's oil production comes from 1,604 producing wells in San Juan and Rio Arriba Counties. In addition, an estimated 44.5 percent of New Mexico's natural gas production comes from over 8,600 active wells in 64 fields scattered throughout the San Juan Basin.

As a result of the increase in oil and gas prices, production companies are beginning to take a renewed look at the potential for future development in abandoned or low producing fields. The application of new extraction techniques and the search for new sources are projected to create major impacts on the CMA. Ten new oil and gas refineries to service an additional 10,204 producing wells are proposed for the Bisti region.

Heritage Resources

Cultural Resources

The total area of the San Juan Basin as a cultural province is approximately 50,000 square miles, or about the size of Belgium. The extent of the cultural resource has not been fully determined. A recent Class II

TABLE 1

PROPOSED TIMETABLE FOR MAJOR BLM ACTIONS IN THE CMA

(Calendar Year)

Action	Startup	Completion
Wilderness Study and EIS	Feb. 80	June 83
Chaco Planning	Feb. 80	Sept. 81
New Mexico Generating Station EIS	May 80	Apr. 83
PRLA EA	Oct. 80	Aug. 81
Ute Mountain Exchange EA	Oct. 80	Sept. 82
Cumulative Impact EIS	Sept. 80	Sept. 83
Process 4 Arch Minerals PRLA's	Sept. 81	Aug. 82
Process 22 Remaining PRLA's	Mar. 82	June 83
San Juan Regional Coal EIS and Possible Competitive Leasing	Oct. 81	Sept. 83
Issuance of PRLA Coal Leases	Dec. 83	Dec. 83

sample survey by the BLM shows a range of site density from 2 sites to 90 sites per square mile. According to a recent study by the National Park Service (NPS) for the Bureau of Indian Affairs (BIA), some 16,000 cultural resource sites, mostly archeological, have been recorded. Extrapolating from present data, NPS estimates 250,000 archeological sites for the basin as a whole. These cultural resources span some 10,000 years, providing an unparalleled opportunity to utilize a unique part of our national heritage in studying the long-term effect of human use and abuse of the land, under varying conditions of climate, economy, and population size.

The importance of the San Juan Basin is accentuated by what has come to be called "the Chacoan Phenomenon" ---i.e., in excess of 70 scattered communities in the basin that appear to be directly related to the spectacular concentration of ruins at Chaco Canyon National Monument. These include remains of communal dwellings that were the largest in the world until the late 19th century. Since 1972 it has become the general belief that Chacoan cultural remains represent a relatively complex socio-economic system previously unknown north of Mexico. It is theorized that Chaco Canyon may have been the center of an extensive road network that united outlying communities into a vast regional redistribution system.

One of the most remarkable sites of the Chacoan Phenomenon, Pierre's Site, was first reported by a student in 1973. This Chacoan outlier is located on public lands near the center of the CMA (see oversize Map E). The site consists of at least 12 major structures and ancillary facilities within a square mile. While the complex remains unstudied, preliminary reconnaissance indicates approximate building dates of A.D. 900 to 1150.

Paleontology

Paleontological resources in the San Juan Basin were assessed in a paleontological reconnaissance performed under contract to the BLM. During a 3-month period, the reconnaissance team was able to locate and map over 1,100 fossil bearing sites that could yield several thousand specimens. Cretaceous and Tertiary age rocks in the CMA have produced extensive faunas and floras containing many new species, as well as some rare plant and animal associations. At the site of a Cretaceous petrified forest, for example, numerous tree stumps occurring in-place are associated with the remains of several different kinds of dinosaurs, a few large turtles and crocodiles, and some relatively rare mammals.

As a result of data gathered during the reconnaissance, it was recommended that certain localities be set aside as paleontological preserves, and that a salvage program and repository be developed. Although the eventual size is still under study, seven localities within the CMA are being considered through the BLM planning system as Areas of Critical Environmental Concern (ACEC) for paleontological resources. Locations of these potential ACEC are shown on oversize Map E. Faunas from these localities contain some of the highest quality remains of Upper Cretaceous-Lower Tertiary land animals that are to be found anywhere in the world. Moreover, assemblages of fossil animals collected from exposed sedimentary rocks in the area have been used to define geologic time and time stratigraphic units. As a result, the collecting localities have developed considerable historic as well as geologic significance.

Wilderness

The Federal Land Policy and Management Act of 1976 mandated that the BLM identify all roadless areas of 5,000 acres or more that contain outstanding opportunities for solitude or primitive and unconfined types of recreation, and report to the President by 1991 as to their suitability for preservation as wilderness. Three inventory units within the CMA, Bisti, Ah-shi-sle-pah and De-na-zin, have been designated by the BLM New Mexico State Director as Wilderness Study Areas (WSA's). Locations of these WSA's are shown on oversize Map E. These areas contain 28,520 acres of highly eroded "badlands", a type of terrain and ecosystem presently not represented in the National Wilderness System. The potential of these areas for wilderness designation is heightened by the presence of scientifically valuable paleontological resources.

Two of the three WSA's, Bisti and Ah-shi-sle-pah, have been identified as having high coal potential. Public meetings held as part of the wilderness inventory process have revealed that mining and wilderness interests are prepared for a major confrontation over these areas. The New Mexico Wilderness Society has voiced complete opposition to mining these WSA's and has vowed to take the fight through Congress, if necessary. The BLM is implementing a study and reporting schedule for these WSA's that could terminate in submission of a recommendation for wilderness designation to the Department of the Interior in June 1983, the President in August 1983, and Congress in September 1983.

Recreation

The Angel Peak campground is the only recreational development currently administered by the BLM near the CMA. As shown on Map E, this site is located near State Highway 44, the major access corridor between Farmington and Albuquerque. District office survey data indicates that the Angel Peak campground receives an average of 100 vehicles per month during peak load months. At a rate of 3.5 persons per vehicle, this produces a potential use demand of 350 persons per month.

Chaco Canyon National Monument, administered by the NPS, is the only developed recreational facility within the CMA. Statistics furnished by the NPS show that 42,700 day visitors and 11,885 overnight campers used the monument during 1978. The monument has experienced a 4,859 visitor annual increase between 1976 and 1979.

As a result of price increases in fuel, recreational use patterns are projected to shift towards increased utilization of available regional facilities. The need for additional facilities is being accelerated by population growth accompanying the development of energy resources. The four counties in which the CMA is located had a 1970 population in excess of 138,000. Projecting the average 1970-1977 growth rate of 4.36 percent, the population of the four counties would reach 323,934 by 1990, more than double its present size.

Recreational opportunities have been identified in the Bureau planning system for the development of a badlands overlook and primitive

campground near the town of Lybrook, as well as development of trailheads should the three WSA's in the CMA be designated as wilderness areas. Locations of the proposed campground and trailheads are shown on oversize Map E.

NAVAJO OCCUPANCY

Historically the Navajo Indians have utilized both private and Federal lands for livestock grazing. Many structures for families and livestock have been constructed on Federal lands without proper authorization. Unauthorized Navajo occupants on existing PRLA's or potential competitive lease areas would be severely impacted should energy development occur. It is essential that those Navajo families whose homes lie directly in the path of mining be relocated with the least possible disruption to their traditional lifestyle. In the process of moving these families, consideration must be given to many factors, including tribal government boundaries, religious significance of the relocation area, disruption of kinship and family relationships, dwelling suitability, type and extent of livestock operation, and impacts on current inhabitants of the relocation area. The Bisti Multiple Resource Program would serve as an effective on-the-ground mechanism to handle relocation issues and to constrain future unauthorized occupancies.

PENDING ACTIONS AFFECTING THE CMA

Navajo Land Exchange

Negotiations have been carried out between the BLM and the Navajo Tribe for settlement of approximately 350 unauthorized Navajo occupancies in the general area of the CMA. Under proposed legislation, 79,000 acres of lands offered by the Navajo Tribe would be exchanged for 57,000 acres of public lands of equal value. Title to the public lands would remain with the U.S. and the lands would be administered by the BIA in trust for the Navajo Tribe. Unauthorized Indian occupancies in areas of strippable coal have not been included as part of this proposed exchange, but their relocation will be a problem that will have to be resolved before the coal is completely removed.

Ute Mountain Land Exchange

The Public Service Company of New Mexico (PNM) has offered 19,000 acres on Ute Mountain in the Albuquerque District's Taos Resource Area in exchange for lands of equal value in the CMA. PNM has requested a withdrawal on the mineral estate of approximately 5,000 of these acres to be used for the proposed New Mexico Generating Station and townsite (Map D). The Ute Mountain Exchange can be carried out as an administrative action under existing BLM exchange authority.

Bisti Coal Lease Exchange

Another piece of pending legislation relating to energy development in the CMA is the proposed Bisti exchange. A coal lease held by Western Coal Company (Sunbelt) overlaps 1,200 acres of the Bisti WSA. Because of the intensity of opposition to mining in the Bisti by the New Mexico Wilderness Society, a bill has been introduced into Congress (S.B. 1455) that would amend

the Mineral Leasing Act of 1920 and authorize the Secretary of the Interior to exchange Western's coal lease in the Bisti for a coal lease of equal value in another area within the CMA.

Chaco Culture National Historical Park (House Bill H.R. 3)

The CMA may be impacted by legislation pending under House Bill H.R. 3 that would transfer to the administrative jurisdiction of the NPS lands currently managed under authority of FLPMA. This bill provides for consolidation of the present Chaco Canyon and Aztec Ruins National Monuments into a single unit, to be referred to as the Chaco Culture National Historical Park; expansion of the existing Chaco Canyon National Monument boundaries while deleting 540 acres to be used as exchange lands to consolidate NPS holdings in the Bisti region; and the addition 31 Chacoan outlier sites, three of which--Pierre's Site, Halfway House, and Twin Angels--are located on public lands. Oversized Map E shows the existing boundaries of Chaco Canyon National Monument, proposed additions to the main monument, and those outliers outside the present monument that are within or near the CMA. H.R. 3 also includes a provision that all actions on Federal lands adjacent to the proposed national park be approved by the Secretary of the Interior.

PART 2

BISTI REGION MULTIPLE RESOURCE PROGRAM

As discussed above, a number of resource conflicts of national importance are presently occurring or are expected to occur in the CMA. This remote area will require the Bureau's special attention if the Bureau is to meet its commitment to effective on-the-ground management. The current structure and staffing of the Albuquerque District's Farmington Resource Area Office does not permit the degree of intensive management necessary for the CMA. Consequently, the Albuquerque District is proposing that a Bisti Region Multiple Resource Program be established as a detached project office initially administered by the Farmington Resource Area Office. This program has been designed to address the conflicts in the CMA in a responsible manner. It would have the dual objectives of expediting development of energy resources, while providing protection for the area's valuable scientific, cultural, and human resources.

To avoid over management of the CMA, the Bisti Multiple Resource Program has been structured as a three-phase management response. Specific functions and staffing for the program would be determined by the magnitude of energy-related developments, as well as by the magnitude of potential impacts to the heritage resources and the lifestyle of local Navajos. Each successive phase would involve more intensive management achieved through increases in the number and expertise of personnel, with corresponding increases in facilities. The major aspects of each phase of the program are described below.

Phase I

Management response under this phase would be keyed to energy developments expected to occur within the next three years. Essentially, this phase would be an initial, on-the-ground response to low levels of coal mining in the CMA. The Phase I response would facilitate mineral leasing and lease administration, WSA supervision, cultural and paleontological resource inventories, protection of sensitive archeological and paleontological sites, and general monitoring of activities within the CMA. High-priority work projects that must be accomplished in FY 81 are listed in Table 2. Appendix A describes the preconstruction sequence that must be carried out in Phases I and II prior to construction of permanent facilities during Phase III.

Staffing requirements for Phase I are identified in Appendix B. Six positions would be needed immediately to get the program underway. These positions include the project manager, clerk-typist, archeologist, geologist, outdoor recreation planner, and realty specialist. The remainder of the Phase I staff could be added during the second quarter of FY 81. Table 3 presents the organizational structure of the project office for Phase I.

Once the program was underway, considerable support would be needed from both the Denver Service Center and the Albuquerque District Office to develop a complete narrative for management actions under Phases II and III. Appendix C presents an estimate of these support needs. Much of this support would also be required during Phase II and the early stages of Phase III.

TABLE 2

BISTI STAFF WORK PROJECTS FOR FY 1981

I. All Staff
- A. Become familiar with area and resources
- B. Gather planning documents into central location
- C. Coordinate with Area, District, and State Office staff specialists
- D. Meet with special user groups
- E. Coordinate with other federal agencies involved in energy development
- F. Work with Denver Service Center (DSC) on Phase III design plans

II. Project Manager
- A. Initiate personnel actions for new staff members
- B. Initiate feasibility study with DSC for Phase III construction
- C. Hold strategy sessions with State Director, State Office Project Leader, District Office, and Area Office on major energy developments
- D. Direct professional staff in accomplishing major energy-related tasks
- E. Oversee general direction of project office, including office operation, personnel housing, vehicles, and communications

III. Interpreter
- A. Assist in negotations between BLM and the Navajo Tribe
- B. Work with relocation of Navajo families on existing PRLAs
- C. Inform local chapter representatives of development proposals in the CMA
- D. Represent BLM at negotiations between BLM and BIA
- E. Represent Navajo interest in planning, budgeting, and programming

IV. Law Enforcement Specialist
- A. Maintain surveillance of paleontological and cultural sites
- B. Maintain surveillance of unauthorized mining and mineral removal
- C. Maintain surveillance of WSA's

V. Paleontologist and Archeologist
- A. Conduct EA and EIS inventories
- B. Participate in computerization of the Bureau's cultural data
- C. Identify and nominate qualified sites to the National Register
- D. Protect or mitigate critical sites by signing, structural stabilization, salvage, and curation
- E. Field-check data for EA's and EIS's
- F. Initiate Chacoan Community Cultural Resources Interim Management Plan

VI. Geologist
- A. Process oil and gas applications
- B. Participate in surface owner consultations
- C. Contact mining industry
- D. Work with DSC on subsurface geological data for Phase III construction

VII. Outdoor Recreational Planner
- A. Gather and analyze visitor-use data for wilderness studies
- B. Process mineral exploration applications that affect WSA's
- C. Develop wilderness management plan recommendation
- D. Write comprehensive analysis of recreation facility needs for Pierre's site

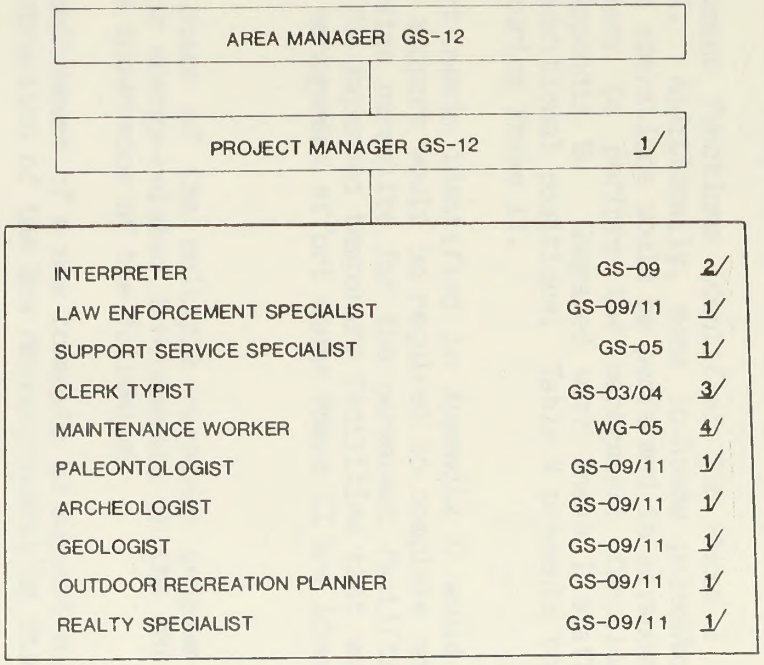
VIII. Realty Specialist
- A. Coordinate lands report on Ute Mountain Exchange with Farmington and Taos Resource Areas
- B. Write withdrawal report on Ute Mountain Exchange
- C. Identify Navajo occupanices on PRLA's and competitive lease areas
- D. Assist in determining alternate sites for relocation of unauthorized occupancies
- E. Process special land use permits associated with mine development, generating facilities, and the Star Lake Railroad

IX. Support Service Specialist
- A. Oversee operaton of the clerical staff
- B. Procure administrative supplies and equipment
- C. Expedite orderly flow of correspondence
- D. Serve as initial contact for visiting public
- E. Oversee maintenance of office, housing, and associated facilities

X. Clerk-Typist
- A. Type formal reports, letters, and other documents
- B. Maintain office filing system
- C. Process outgoing and incoming mail
- D. Maintain office imprest fund and process time reports
- E. Serve as receptionist

IX. Maintenance Worker
- A. Complete minor maintenance on vehicles
- B. Maintain trailers used for administrative offices and
- C. Maintain water system
- D. Process and safeguard maintenance supplies and materials
- E. Maintain running inventory of distriubtion of supplies and materials

TABLE 3
TABLE OF ORGANIZATION
PHASE I



1/ PERMANENT POSITION
2/ EXISTING POSITION
3/ WAE POSITION
4/ WAGE GRADE POSITION

Temporary facilities needed for the early stage of Phase I are listed in Appendix D. Trailers would be used for both office space and housing. These units would be placed at Tsaya, New Mexico, a trading post near the area where mining probably would first occur.

Phase II

This phase of the Bisti Region Multiple Resource Program would begin if the following factors occurred:

- Additional coal lands in the CMA went to competitive lease and mining plans were approved; or
- some of the 26 PRLA's and associated mining plans were approved; and
- an environmental assessment of impacts from the proposed permanent program facilities was completed.

Management functions identified for Phase I would be intensified during Phase II. Additionally, some in-house paleontological and cultural resource salvage operations would be performed in advance of mine development. Staffing necessary to perform the management functions of Phase II are identified in Appendix B. Compared with Phase I staffing, Phase II would require only 3 additional positions. Table 4 presents the organization of the project office during Phase II.

Support needs identified in Appendix C would be continued during Phase II. This support would be required to complete construction design and to develop a design narrative for the permanent facilities to be constructed in Phase III. The expanded temporary facilities that would be needed because of the enlarged management effort under Phase II are identified in Appendix D.

Phase III

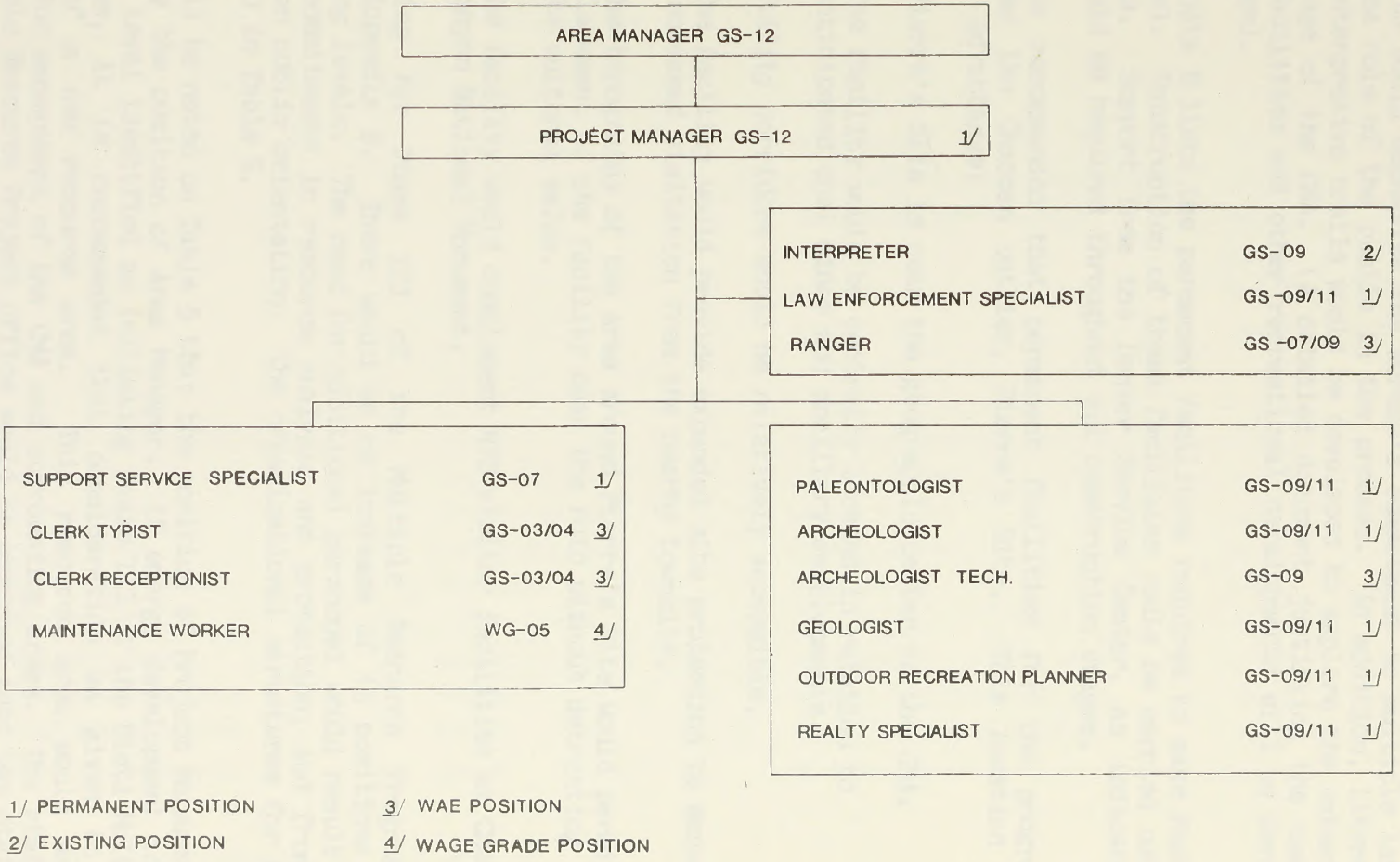
This phase of the multiple resource program would be a maximum response to major energy-related developments in the CMA. The phase would be initiated by the occurrence of the following:

- Establishment of a new townsite to support mine development, and
- Construction of the New Mexico Generating Station.

Phase III would incorporate all management functions of Phase I and II, expand them, and offer several new functions. Paleontological and cultural resource salvage would continue to be carried out ahead of mine development. A temporary repository for salvaged materials would be built to provide space for reference collections and temporary storage until salvaged materials could be shipped to permanent repositories.

Additional management responsibilities would be added if the three WSA's in the CMA were designated as wilderness areas. These areas would be fenced to control access, and a user permit system based on minimal carrying capacity would be implemented.

TABLE 4
TABLE OF ORGANIZATION
PHASE II



1/ PERMANENT POSITION
2/ EXISTING POSITION
3/ WAE POSITION
4/ WAGE GRADE POSITION

The development of a combined administrative/interpretive center would form an integral part of Phase III. This facility would be available on a cost-reimbursable basis to the BIA and the Navajo Tribe, who have expressed interest in shared space. This facility would incorporate a public meeting space. Exhibits would emphasize the Bureau's commetment to multiple land-use planning and the role of the public in the process. In addition, literature, exhibits and interpretive trails would be developed to explore the natural and cultural heritage of the CMA. (A detailed document justifying the need for interpretive facilities and other recreational developments will be developed at a later stage).

Appendix E lists the permanent facilities required to make Phase III fully functional. Construction of these facilities could be carried out on a staggered basis. Support from the Denver Service Center, as indicated in Appendix C, would be required throughout all construction stages.

It is recommended that permanent facilities for the program be constructed near the Chacoan outlier, Pierre's Site. This location would offer six major advantages:

1. Pierre's Site is near the geographic center of the CMA.

2. The facility would be centrally located in relation to anticipated coal mines and ancillary developments.

3. Utility corridors would be relatively accessible.

4. The facility would provide expanded site protection to manage increased visitation from the nearby townsite.

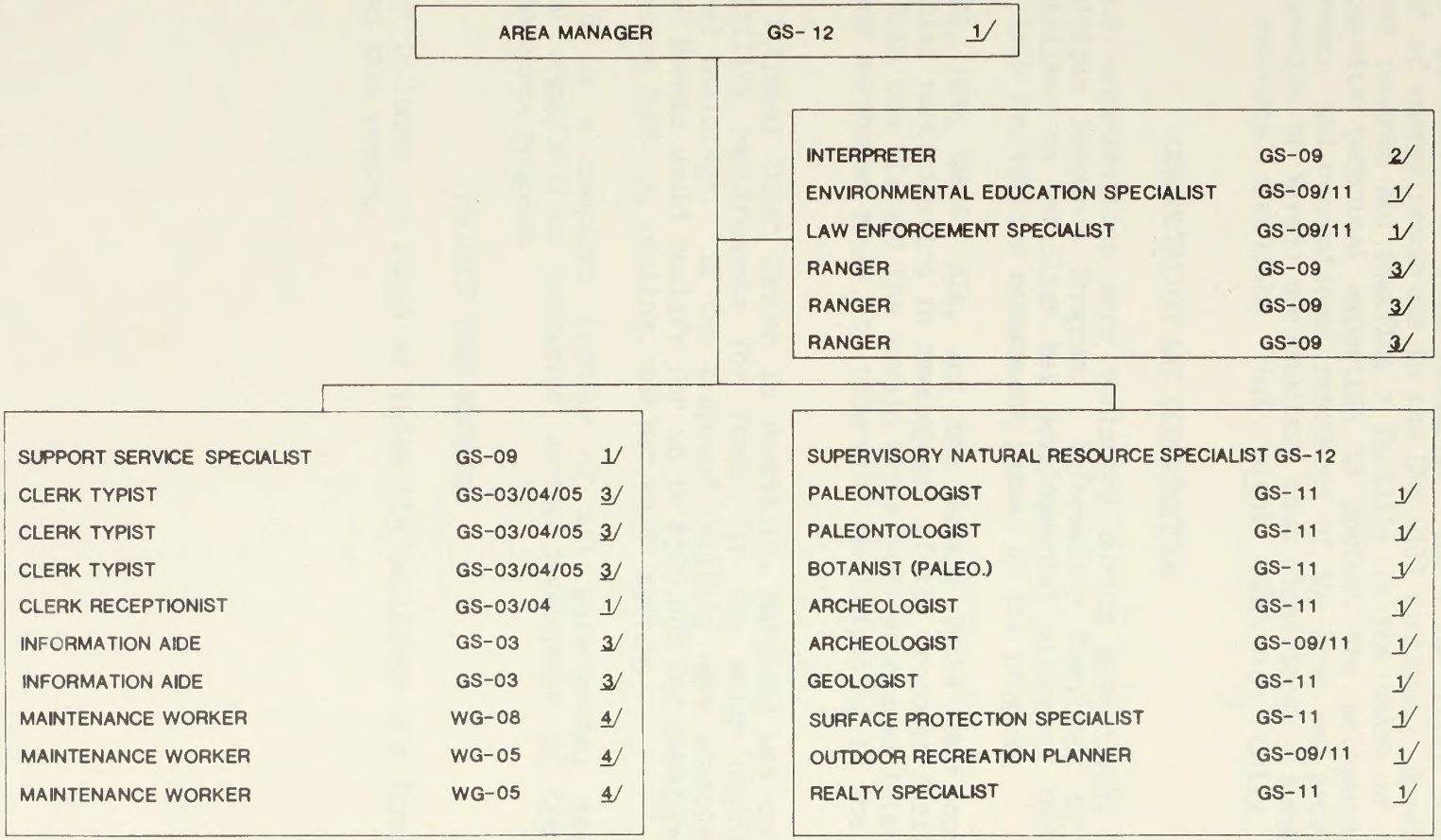
5. The topography of the area around Pierre's Site would permit placement of the facility near the ruin without detracting from its cultural value.

6. The facility would complement NPS visitor facilities at Chaco Canyon National Monument.

Staffing for Phase III of the Multiple Resource Program is identified in Appendix B. There would be on increase of 13 positions over Phase II staffing levels. The need for additional personnel would result from the increased commitments in resource analysis and protection, and from the added emphasis on public orientation. The organizational structures for Phase III is presented in Table 5.

It will be noted on Table 5 that the position of Project Manager has been replaced by the position of Area Manager. If energy development in the CMA reaches the level identified as initiating Phase III of the Bisti Multiple Resource Program, it is recommended that consideration be given to the establishment of a new resource area. This resource area would assume responsibility for management of the CMA and surrounding areas. The staff of the Bisti Multiple Resource Project Office would be absorbed into the staff of this new resource area. The additional staff needed for managing such other resource area responsibilities as range and wildlife would be transferred from the Farmington Resource Area Office. Further details on establishing a new resource area are beyond the intended scope of this proposal.

TABLE 5
TABLE OF ORGANIZATION
PHASE III



1/ PERMANENT POSITION
2/ EXISTING POSITION
3/ WAE POSITION
4/ WAGE GRADE POSITION

CONCLUSION

A cost summary of the proposed Bisti Multiple Resource Program has been included in Appendix F of this document. There is little doubt that rapid development of energy resources in the CMA will continue. Developing a special management program and staffing a facility in the heart of the CMA would provide on-site technical expertise to protect the paleontological, cultural, wilderness, and recreational resources of the area and provide for the orderly relocation of Navajo occupancies, thus significantly speeding up resolution of resource conflicts that might otherwise delay energy development.

CONSULTATION AND COORDINATION

Numerous organizations were contacted during development of the Bisti Region Multiple Resource Program. Information furnished by energy companies was utilized to establish key developmental mileposts that would trigger movement into the various management phases of the program.

The NPS, OSM, USGS, BIA, and the Navajo Tribe were contacted concerning potential participation in development of the proposed facility at Pierre's Site. Both the BIA and the Navajo Tribe have expressed interest in renting office and warehouse space, or otherwise participating in the use of such a facility.

The National Solar Center in Rockville, Maryland was contacted concerning eligibility requirements for funds for the solar heating and cooling of Federal buildings. If the proposed facility were accepted into this program, the Bureau would qualify for up to $500,000 for development of an active solar space heating, cooling, and hot water system.

Table 6 is a complete listing of all governmental agencies, institutions, and organizations contacted during development of the Bisti Region Multiple Resource Program.

PROJECT TEAM MEMBERS

Table 7 includes the names of those BLM employees who formed the team that compiled this report.

TABLE 6

AGENCIES, INSTITUTIONS, AND ORGANIZATIONS CONTACTED
DURING DEVELOPMENT OF THE BISTI MULTIPLE RESOURCE PROGRAM

Federal Government

Department of Energy
  Solar Division

Department of Interior
  Bureau of Indian Affairs
    Navajo Area Director
    Eastern Navajo Agency Supt.

  National Park Service
    Southwest Regional Director
    General Supt., Navajo Group
    Supt., Chaco Canyon Nat. Mon.

  Office of Surface Mining
    Regional Director, Region V

  U.S. Geological Survey
    Farmington District Supervisor

State Government

Governor, State of New Mexico
Governor's Cabinet
Energy and Minerals Department
  Mining and Minerals Division
Natural Resource Department
State Land Office

Tribal Government

Navajo Tribal Council
Navajo Resources Committee
Eastern Navajo Land Commission
Crownpoint Chapter
Pueblo Pintado Chapter

Universities

New Mexico Institute of Mining
  and Technology
University of New Mexico

Museums

American Museum of Natural History
Museum of Northern Arizona
New Mexico Museum of Natural History
  (under development)

Environmental Groups

Sierra Club
Wilderness Society

Energy Companies

Arch Minerals Corporation
Chaco Energy Company
Consolidated Coal Company
Eastern Associated Coal Company
Plains Electric Generation and
  Transmission Corporation
Public Service Company of N. Mex.
Ranchers Exploration and Development
  Corporation
Salt River Project
Santa Fe Industries
Sunbelt Mining Company
United Nuclear Corporation
Western Coal Company

TABLE 7

BISTI REGION
MULTIPLE RESOURCE CENTER
PROJECT TEAM

Project Coordinator	
George Nelson	Outdoor Recreation Planner
Developmental Team	
Coleman R. Robison	Botanist (Paleobotany)
Carol M. Thompson	Archeologist
Advisors	
Martin R. Botkin	District Wilderness Coordinator
Charles R. Morrison	District Archeologist
Steve Quintana	Engineer
J. Keith Rigby	Geologist (Paleontology)
Audio-Visual Production	
Harry Delong	Cartographic Aid
Myrna Finke	Cartographic Aid
Jeffery Nighbert	Cartographic Technician
William J. Radford	Public Information Officer

APPENDICES

APPENDIX A

BISTI REGION MULTIPLE RESOURCE FACILITIES

PRE-CONSTRUCTION SEQUENCE

The Albuquerque District Operations Engineering Staff developed a preliminary outline of the pre-project development for the construction of permanent facilities for the Bisti Region Multiple Resource Program. The outline incorporates information from BLM manuals and other sources, including personal experience.

I. Inventories of Existing Support Items

A. Expertise

Determine expertise available from the Area, District, State Office, Denver Service Center, and the Washington Office for use in the project.

B. Transportation Facilities

Evaluate available route for ingress and egress into the site and impacts of the project on towns, industries and other projects in the area using the same transportation systems.

C. Utilities

Evaluate the project consumption rates, costs of utilities and the impacts on towns, industries and other projects using the same utility source.

D. Hydrology

Evaluate impacts of surface and subsurface hydrological influences on the project site, towns, industries and other projects in the area.

II. Project Site Location Analysis (After completion of MFP)

A. Site Layout Objectives

1. Evaluate the space and workflow requirements for the complex to designate layout of buildings and determine demands on utilities to be developed.

2. Interface the functional requirements of buildings within the complex to minimize the costs associated with maintenance and operation of facilities.

B. Reconnaissance Maps

1. Evaluate quadrangles, geological maps and reports of the area to determine the acceptability of the site for the complex.

2. Prepare preliminary site maps containing sufficient logistical information to evaluate site conditions.

C. Site Location and Vicinity Maps

1. Plot site layout of buildings, warehouses, transportation system, utilities, and related facilities to insure that topographical features will be acceptable in locating complex.

2. Develop site maps with sufficient data to determine design criteria and cost analysis for the site during feasibility stage.

D. Report Preparation

Develop a report to identify all data on the site costs, special problems, and recommendations.

III. Environmental Analysis

IV. Design Development

A. Narrative

1. Evaluate alternative concepts of available systems and components to identify cost trade-offs and maintenance costs associated with each alternative.

2. Evaluate construction activity, network analysis, and time constraints imposed by local conditions to identify resource requirements such as men, materials, and equipment pertinent to the project.

B. Feasibility Design and Action Plan

1. Assemble a review team to analyze project design requirements.

2. Evaluate various design options for the complex to identify major design problems, high risk activities, and all component project parts of the project.

3. Develop time-bar charts to use in coordinating architectural/engineering activities with those of BLM.

4. Develop action plan containing costs, manpower needs, material needs and pert charts to assure timeliness of project development prior to construction.

C. Award Design Contract

Develop selection criteria for architectural/engineering firms to assure quality control in design development of project.

APPENDIX B

STAFFING

Title/Function	Phase I			Phase II			Phase III		
	No.	Grade	Salary (dollars)	No.	Grade	Salary (dollars)	No.	Grade	Salary (dollars)
PERMANENT STAFF									
Project Manager -resource management -budget -personnel -AWP	1	GS-12	24,703	1	GS-12	24,703	----------		
Area Manager -resource management -budget -personnel -AWP	----------			----------			1	GS-12	24,703
Interpreter -public relations -public education -advisor	1	GS-09	17,035	1	GS-09	17,035	1	GS-09	17,035
Environmental Education Specialist -prepare interpretive literature -coordinate exhibits -develop educational programs	----------			----------			1	GS-09/11	17,035
Law Enforcement Specialist -supervision of rangers -processing violations -processing court cases	1	GS-9/11	17,035	1	GS-09/11	17,035	1	GS-09/11	17,035
Ranger -patrol -confiscate evidence -arrest	----------			1	GS-07/09	13,925	3	GS-09	51,105
Support Service Specialist -purchasing -budget preparation -supervision office staff -personnel processing	1	GS-05	11,243	1	GS-07	13,925	1	GS-09	17,035

APPENDIX B (continued)

Title/Function	Phase I No.	Grade	Salary (dollars)	Phase II No.	Grade	Salary (dollars)	Phase III No.	Grade	Salary (dollars)
Clerk Typist -record maintenance -correspondence -telephone -mail	1	GS-03/04	8,952	1	GS-03/04	8,952	3	GS-03/04/05	26,856
Clerk Receptionist -meet public -answer public inquiry -answer phone	----------			1	GS-03/04	8,952	1	GS-03/04	8,952
Information Aide -inform public of BLM programs	----------			----------			2	GS-03	17,904
Maintenance Worker -admin./interpret. center	1	WG-05	12,000	1	WG-05	12,000	1	WG-08	14,500
-parking -campgrounds							2	WG-05	24,000
Supervisory Natural Resource Spec. -supervision -team leader	----------			----------			1	GS-12	24,703
Paleontologist -inventory -salvage -curation -study -analysis -interpretation	1	GS-09/11	17,035	1	GS-09/11	17,035	2	GS-11	41,222
Botanist (Paleobotany) -inventory -study -analysis -curation	----------			----------			1	GS-11	20,611
Archeologist -inventory -curation -study -analysis -interpretation	1	GS-09/11	17,035	1 1	GS-09/11 GS-09	17,035 17,035	1 1	GS-11 GS-09/11	20,611 20,611

APPENDIX B (concluded)

Title/Function	Phase I			Phase II			Phase III		
	No.	Grade	Salary (dollars)	No.	Grade	Salary (dollars)	No.	Grade	Salary (dollars)
Geologist -mineral leasing -monitor min. extraction -interpretation -study	1	GS-09/11	17,035	1	GS-09/11	17,035	1	GS-11	20,611
Surface Protection Specialist -monitor mineral extraction -reclamation -analysis	----------			----------			1	GS-11	20,611
Outdoor Recreation Planner -interpretive center -recreation program and facilities -user permits -maintenance contracts -budget	1	GS-09/11	17,035	1	GS-09/11	17,035	1	GS-09/11	17,035
Realty Specialist -Navajo occupancy trespass -land exchanges -compliance	1	GS-09/11	17,035	1	GS-09/11	17,035	1	GS-11	20,611
TOTAL	11		176,143	14		218,737	27		442,786

APPENDIX C

SUPPORT

	Phase I		Phase II		Phase III	
	Quantity	Cost (Dollars)	Quantity	Cost (Dollars)	Quantity	Cost (Dollars)
OVERHEAD						
Vehicles	8 vehicles @ 1,500 ea	12,000	12 vehicles @ 1,500 ea	18,000	24 vehicles @ 1,500	36,000
Utilities	8 trailers @ 50/mo/ea	4,800	12 trailers @ 50/mo	7,200	12 mo @ 300/mo	3,600
Space rental	8 trailers @ 50/mo/ea	4,800	12 spacers @ 50/mo	7,200	-	-
Water supply	600 gals/day @ .01/gal	2,190	12 mo @ 50/mo	600	12 mo @ 50/mo	600
Telephone	12 mo @ 200/mo	2,400	12 mo @ 500/mo	6,000	12 mo @ 800/mo	9,600
Trash disposal	12 mo @ 25/mo	300	12 mo @ 25/mo	300	12 mo @ 25/mo	300
Janitorial	12 mo @ 100/mo	1,200	12 mo @ 200/mo	2,400	12 mo @ 350	4,200
Repair costs	12 mo @ 50/mo/ea	4,800	12 mo @ 50/mo/ea	7,200	12 mo @ 400/mo	4,800
SUBTOTALS		32,490		48,900		59,100
SUPPORT COSTS						
Denver Service Center						
Project Engineer	10 wm @ 2,000/wm	20,000	10 wm @ 2,000/wm	20,000	10 wm @ 2,000/wm	20,000
Surveyor	10 wm @ 2,000/wm	20,000	10 wm @ 2,000/wm	20,000	10 wm @ 2,000/wm	20,000
Engineering Technician	10 wm @ 2,000/wm	20,000	10 wm @ 2,000/wm	20,000	10 wm @ 2,000/wm	20,000
Architect	5 wm @ 2,000/wm	10,000	5 wm @ 2,000/wm	10,000	5 wm @ 2,000/wm	10,000
Civil Engineer	5 wm @ 2,000/wm	10,000	5 wm @ 2,000/wm	10,000	5 wm @ 2,000/wm	10,000
Mechanical Engineer	3 wm @ 2,000/wm	6,000	3 wm @ 2,000/wm	6,000	3 wm @ 2,000/wm	6,000
Electrical Engineer	2 wm @ 2,000/wm	4,000	2 wm @ 2,000/wm	4,000	2 wm @ 2,000/wm	4,000
Structural Engineer	5 wm @ 2,000/wm	10,000	5 wm @ 2,000/wm	10,000	5 wm @ 2,000/wm	10,000
Sanitary Engineer	3 wm @ 2,000/wm	6,000	3 wm @ 2,000/wm	6,000	3 wm @ 2,000/wm	6,000
Hydrologist	2 wm @ 2,000/wm	4,000	2 wm @ 2,000/wm	4,000	2 wm @ 2,000/wm	4,000
Clerk Typist	5 wm @ 2,000/wm	10,000	5 wm @ 2,000/wm	10,000	5 wm @ 2,000/wm	10,000
Cartographic Aide	1 wm @ 2,000/wm	2,000	1 wm @ 2,000/wm	2,000	1 wm @ 2,000/wm	2,000
Contract Administrator	2 wm @ 2,000/wm	4,000	2 wm @ 2,000/wm	4,000	2 wm @ 2,000/wm	4,000
Albuquerque District Office						
Hydrologist	2 wm @ 2,000/wm	4,000	2 wm @ 2,000/wm	4,000	2 wm @ 2,000/wm	4,000
Soil Scientist	1 wm @ 2,000/wm	2,000	1 wm @ 2,000/wm	2,000	1 wm @ 2,000/wm	2,000
Wildlife Biologist	1 wm @ 2,000/wm	2,000	1 wm @ 2,000/wm	2,000	1 wm @ 2,000/wm	2,000
Cartographic Aide	9 wm @ 2,000/wm	18,000	9 wm @ 2,000/wm	18,000	9 wm @ 2,000/wm	18,000
Contract Specialist	9 wm @ 2,000/wm	18,000	9 wm @ 2,000/wm	18,000	9 wm @ 2,000/wm	18,000
SUBTOTALS		170,000		170,000		170,000
GRAND TOTALS		202,490		218,900		229,100

APPENDIX D

TEMPORARY FACILITIES

	Phase I		Phase II	
	Quantity	Cost (Dollars)	Quantity	Cost (Dollars)
Administrative Facilities	2 trailers (12 ft. x 50 ft.)	15,000	----------	
Warehouse Facilities	2 metal sheds/floors (14 ft. x 14 ft.)	600	1 metal bldg./floor (50 ft. x 100 ft.)	20,000
Residential Housing	2 trailers @ 7,500/trailer (4 trailers have already been obtained)	15,000	6 trailers @ 7,500/trailer (4 trailers have already been obtained)	90,000
Utilities				
Power Lines	----------	------	----------	-------
Wells and Water Storage	----------	4,500	----------	-------
Septic System	----------	------	----------	-------
Road Construction	----------	------	----------	-------
Furnishings/Equipment				
Trailer Transport	4 trailers @ 800/trailer	3,200	6 trailers @ 200/trailer	1,200
Anchor Set	4 anchors @ 400/anchor	1,600	6 anchors @ 400/anchor	2,400
Trailer Winterizing	4 winterizations @ 266.00/winterization	1,200	6 skirtings @ 100/skirting	600
Air Conditioner	4 units @ 250/unit	1,000	6 units @ 250/unit	1,500
Household Furniture	----------	------	6 sets @ 600/set	3,600
Office Desk	12 desks @ 237.50/desk	2,850	10 desks @ 400/desk	4,000
Conference Table	1 table	100	6 tables @ 200/table	1,200
Conference Chair	2 chairs @ 115.50/chair	231	20 chairs @ 50/chair	1,000
File Cabinet	4 cabinets @ 172/cabinet	688	10 cabinets @ 200/cabinet	2,000
Overlay Cabinet	1 cabinet	100	3 cabinets @ 200/cabinet	600
Base Radio	1 radio	2,000	----------	-----
Mobile Radio	6 radios @ 1,200/radio	7,200	6 radios @ 1,200/radio	7,200
First Aid Station Kit	1 kit	200	3 kits @ 200/kit	600
Flammable Storage	2 cabinets @ 300/cabinet	600	3 cabinets @ 400/cabinet	1,200
Truck Tools	----------	-----	6 sets @ 50/set	300
Maintenance Tools	----------	----	Various	6,000
Camera and Spec. Equip.	Various	1,638	Various	3,000
Typewriter	1 machine @ 900/machine	900	3 machines @ 900/machine	2,700
Calculator	4 machines (50.00/machine)	200	5 machines @ 50/machine	250
Printing Calculator	1 machine	150	----------	-------
Drafting Equip./Supplies	Various	1,800	Various	6,000
Clerical Supplies	Various	1,800	Various	4,000
Misc. Procurement	Various	1,800	Various	8,000
TOTAL		64,357		167,350

TABLE E

PERMANENT FACILITIES

	Phase III	
	Quantity	Cost (dollars)
Concept and Design		
Planning Cost	Contract	20,000
Consulting Fee	Contract	5,000
Design Fee	Contract	866,525
SUBTOTAL		891,525
Multiple Resource Center Site Development		
Administrative Space	3,500 sq.ft. @ 90/sq.ft.	315,000
Interpretive Space	6,000 sq. ft. @ 90/sq.ft.	540,000
Visitor/Staff Parking	75 spaces @ 800/space	60,000
Landscaping and Walks	area needs	63,000
SUBTOTAL		978,000
Auxiliary Facilities		
Warehouse	2,000 sq.ft. @ 50/sq.ft.	100,000
Shop	1,500 sq.ft. @ 50/sq.ft.	75,000
Lab	1,500 sq.ft. @ 50/sq.ft.	75,000
Repository	1,500 sq.ft. @ 50/sq.ft.	75,000
Gas Storage	1,000 gal. Tank and pump	30,000
SUBTOTAL		355,000
Recreational Developments		
Multiple Resource Center		
Interpretive Trail	1 mi. @ 16,000/mi.	16,000
Campground	30 sites @ 3,500/site	105,000
Comfort Station	2 sta. @ 10,000	20,000
Campground Road	1/2 mi. @ 100,000/mi.	50,000
Lybrook Prim. Campground	10 sites @ 700/site	7,000
Wilderness Area Trailhead	3 trailhd. @ 2,500/trailhd.	7,500
SUBTOTAL		205,500
Residential Housing		
Permanent Staff		
House	2 houses @ 60,000/house	120,000
Apartment	6 4-plex @ 100,000/4-plex	600,000
Trailer	2 6-pers. tr. @ 5,500/tr.	11,000
Temporary Staff		
Dormitory	30 people	90,000
Kitchen	30 people	30,000
SUBTOTAL		851,000
Furnishings/Equipment		
Multiple Resource Center	10% of construction	855,200
Warehouse	10% of construction	10,000
Shop	10% of construction	7,500
Lab	40% of construction	30,000
Repository	10% of construction	7,500
Special Equipment	various	72,800
Signs	7 signs @ 250/sign	1,750
Fencing	43 mi. @ 2,000/mi.	86,000
Residential Housing	10% of construction	85,100
SUBTOTAL		1,185,650
GRAND TOTAL		4,466,675

Source: Project costs were developed through the cooperation of the NPS and the BLM's DSC.

Note: Projections are based upon average 1980 cost figures. Cost figures must be modified. To reflect inflation notes for each year project construction is delayed.

APPENDIX F

COST SUMMARY

	Phase I (dollars)	Phase II (dollars)	Phase III (dollars)
Start-up Costs			
Concept and Design	---	167,350	891,525
Temporary Facilities/Equipment	64,357	---	---
Permanent Facilities/Equipment	---	---	2,775,650
SUBTOTALS	64,357	167,350	3,667,175
Operating Costs			
Salaries	176,143	218,737	442,786
Overhead	32,490	48,900	59,100
Support Costs			
District Office	44,000	44,000	44,000
Denver Service Center	126,000	126,000	126,000
SUBTOTALS	378,633	437,637	671,886
GRAND TOTALS	442,990	604,987	4,339,061